Abstract

Symbol timing synchronization in OFDM communication systems where multiple wireless terminals communicate with a single base station is described. Base station transmitter and receiver symbol timing is fixed. Each wireless terminal operates to independently adjust its transmitter timing. Transmitter timing synchronization at the

5   wireless terminal is slaved to the terminal's receiver timing synchronization. Each wireless terminal first corrects its receiver symbol timing based on a signal received from the base station. The wireless terminal then adjusts its transmitter symbol timing as a function of its receiver symbol timing. When the receiver symbol timing is to be advanced or delayed by some amount, the transmitter symbol timing is also advanced or

10   delayed, respectively, by the same, or substantially the same, amount. Symbol timing adjustment can be made by adding or deleting digital samples from the first or last symbol in a dwell.